

[ABSTRACT]**[ABSTRACT]**

The present invention relates to methods for improving a genetic stability of an insert in a single-stranded RNA virus, more particularly, to methods for improving a genetic stability of recombinant live vaccine derived from poliovirus vector, which comprises performing a mutagenesis of the foreign insert nucleotide sequence to provide even distribution of G/C content throughout the overall foreign DNA sequence and synthesizing the insert DNA sequence around 500 bp by ligation-free PCR method without template. The present method provides a vector comprising more various antigenic determinant sites compared to the conventional poliovirus vector technology and a method for improving significantly a genetic stability of a foreign sequence, thereby permitting to enforce the applicability of poliovirus vector and single-stranded RNA virus as recombinant live vaccine.

[REPRESENTATIVE FIGURE]

Fig. 11a

[KEY WORDS]

single-stranded RNA virus, poliovirus, Sabin type 1, recombinant vector, genetic stability, G/C content